

DEVELOPMENT OF A COMPUTER VISION TECHNOLOGY
FOR THE FOREST PRODUCTS MANUFACTURING INDUSTRY

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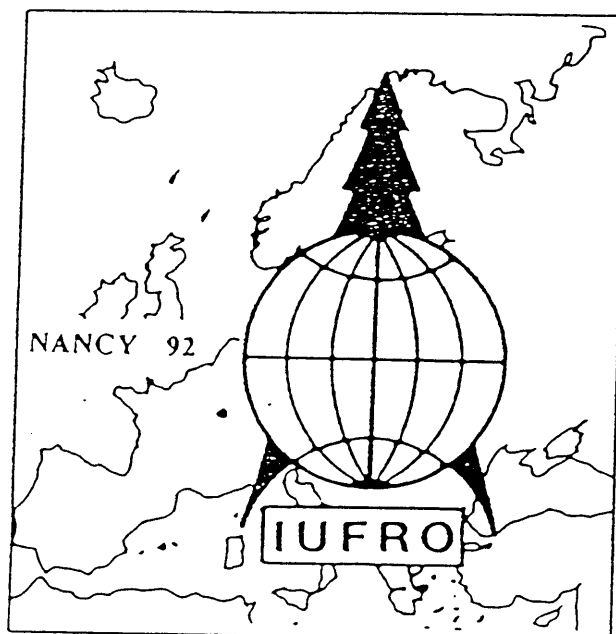
The goal of this research is to create an automated processing/grading system for hardwood lumber that will be of use to the forest products industry. The objective of creating a full scale machine vision prototype for inspecting hardwood lumber will become a reality in calendar year 1992. Space for the full scale prototype has been created at the Brooks Forest Products Center. The lumber handling component of this system has been designed, built, and delivered to Virginia Tech. The computer systems for controlling the lumber handling system and collecting/analyzing image data has arrived. The color imaging systems have been tentatively designed and tested. What remains is to integrate all the various components together and to use the resulting system to create a commercially useful technology for solving a number of hardwood forest products manufacturing problems.

Two remaining tasks need to be completed before a commercially viable technology is achieved. The first task is to perform the necessary systems integration functions. This task will involve combining the lumber handling component, the color imaging component, computer hardware, image processing software, and systems control software into a fully integrated machine vision system. The second task is to test the fully integrated system on several industry applications. The industrial partners for this task are Merillat Industries located in Atkins, Virginia and Cooper Wood Products of Rocky Mount, Virginia. The problem to be investigated for Merillat involves creating an automatic cross cut system for sawing molded door edge parts. The problem to be considered for Cooper Wood Products is the automatic cutup of planed lumber into rough parts. While the cutup problems considered for both of these companies share a number of common features, there are a number of differences as well. Creating a technology that can satisfy the requirements of both companies should provide the insight into how a relatively broad class of hardwood processing problems can be solved.

The first task of developing the fully integrated prototype machine vision system is scheduled to be completed by May 1992. The second task of testing the system will occur throughout the summer of 1992.

NANCY, FRANCE

August / Août 23-28, 1992



BETTER WOOD PRODUCTS THROUGH SCIENCE
LE PROGRÈS SCIENTIFIQUE AU SERVICE DU BOIS
BESSERE HOLZ PRODUKTE DURCH FORSCHUNG
MEJORAR LOS PRODUCTOS DE MADERA MEDIANTE LA CIENCIA

VOLUME 2

Edited by / Editeur:

ASSOCIATION POUR LA RECHERCHE SUR LE BOIS EN LORRAINE
ÉCOLE NATIONALE DU GÉNIE RURAL, DES EAUX ET DES FORÊTS

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